

**RECEIVED
CENTRAL FAX CENTER**

Application No.: 09/890,226

OCT 24 2006
Docket No.: 09600005001**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-7 were pending in this application. Claims 9-13 have been added by this reply. Claims 1, 5, and 11 are independent. The remaining claims depend, directly or indirectly, from claims 1, 5, and 11.

Claim Amendments

Claims 1-3 and 5 have been amended to correct a typographical error noted by the Examiner. No new matter has been added by the aforementioned amendments.

Claim Objections

Claims 1-3 and 5 were objected to for including a typographical error. Claims 1-3 and 5 have been amended to correct the typographical error. Accordingly, withdrawal of this objection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,422,435 ("Takiar") in view of U.S. Patent No. 5,648,648 ("Bertin"). The rejection is respectfully traversed.

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The Examiner has admitted that Takiar fails to teach or suggest at least the following limitations of independent claim 1: "wherein the chip has a thickness of less than 100 μm " and "the complementary chip having a larger thickness than the active chip" (*see* Office Action mailed July 24, 2006, p. 3). However, the Examiner has asserted that Bertin teaches the aforementioned limitations. In support of his assertion, the Examiner has cited a single sentence in Bertin, which states that an endcap chip may have a thickness within the range of 50-100 μm (*see* Bertin, col. 6, ll. 17-19). The Examiner then proceeds to assert that in view of the above sentence one skilled in the art would have adjusted the active chip thickness to less than 100 μm and would be motivated to modify the thickness of the complementary chip such that it is larger than the active chip. However, it is not clear how a mere suggestion that a chip may have a thickness of 100 μm is sufficient to suggest the combination of Bertin and Takiar to teach that an active chip may have a thickness of less than 100 μm .

Moreover, even assuming *arguendo* that Bertin suggests modifying the thickness of the active chip such that it is less than 100 μm , it is not clear how the aforementioned portion of Bertin teaches or suggests modifying the thickness of the complementary chip such that it is thicker than the active chip. The Examiner has asserted that the aforementioned modification to the thickness of the complementary chip in relation to the active chip would have been obvious as such a configuration improves packing density (*see* Office Action mailed July 24, 2006, p. 3). However, it is not clear how the Examiner's purported motivation is related to the claimed invention or how packing density is improved by increasing the thickness of the complementary chip in relation to the active chip.

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In view of the above, the Examiner has clearly failed to establish a motivation to combine the references. Thus, the Examiner has not satisfied the requirements necessary to make a *prima facie* case of obviousness. Accordingly, claim 1 is patentable over the cited references. Dependent claims 2-3 are patentable over the cited references for at least the same reason as independent claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Takiar and Bertin in view of U.S. Patent No. 5,155,068 ("Tada"). The rejection is respectfully traversed.

As discussed above, the Examiner has failed to establish the motivation to combine Takiar and Bertin. Further, Tada does not supply the lacking motivation to combine as evidenced by the fact that Tada is only relied upon to teach "wherein the complementary chip is formed with the same semiconductor material as the active chip" (see Office Action mailed July 24, 2006, p. 5).

In view of the above, independent claim 1 is patentable over Takiar, Bertin, and Tada, whether considered separately or in combination. Dependent claim 4, which is dependent on claim 1, is patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 5-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Takiar, Bertin, in view of admitted prior art (APA). To the extent that this rejection applies to the amended claims, the rejection is respectfully traversed.

As discussed above, the Examiner has failed to establish the motivation to combine Takiar and Bertin. Further, APA does not supply the lacking motivation as evidenced by the fact that APA is only relied upon to teach "an insulating substrate having an outer face provided with outer

* In one embodiment of the invention, the complementary chip is designed to be thicker than the active chip so as to

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electrical contact pads and an inner face, the second face of the active chip being attached to the substrate inner face" (*see* Office Action mailed July 24, 2006, p. 5).

In view of the above, independent claim 5, which includes similar limitations to independent claim 1, is patentable over Takiar, Bertin, and APA, whether considered separately or in combination. Dependent claims 6-7 are patentable over the cited references for at least the same reason as independent claim 5. Accordingly, withdrawal of this rejection is respectfully requested.

New Claims

Claims 9-13 have been added by this reply. Dependent claims 9, 10, and 12 recite "wherein surface area of the first face of the complementary chip is substantially the same as surface area of the active face of the active chip." Support for the aforementioned claims may be found, for example, on page 5 of the specification. Independent claim 11 is directed to an integrated circuit device. Support for independent claim 11 may be found, for example, in original claim 1 and Figures 4A-4C of the specification. Finally, dependent claim 13 recites "wherein the complementary chip has a larger thickness than the active chip." Support for this amendment may be found, for example, in original claim 1.

With respect to independent claim 11 and dependent claims 12 and 13, the preamble of independent claim 11 recites the phrase "consisting of." It is well established that the phrase "consisting of" is closed language. As such, the integrated circuit device in claim 11 may only include an active chip and a complementary chip. Accordingly, in order for independent claim 11 to be anticipated or rendered obvious, the prior art reference(s) may only disclose an integrated

provide additional mechanical strength to the integrated circuit device, *see e.g.*, specification, p.5, l. 29 - p.6, l.8.

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circuit device having at most two chips. Any attempt to cite prior art references that include more than two chips in a given integrated circuit device would read out an explicit limitation (*i.e.*, the “consisting of” limitation) of the claim 11.

Turing to the cited prior art references, all of the cited prior art references teach or suggest devices or chip stacks that include more than two chips. Accordingly, independent claim 11 is patentable over the cited prior art references. Dependent claims 12 and 13 are patentable over the cited prior art references for at least the same reason as independent claim 11.

With respect to dependent claims 9, 10, and 12, none of the prior art references teach or suggest the limitation “wherein surface area of the first face of the complementary chip is substantially the same as surface area of the active face of the active chip.” In fact, the cited prior references show stacks of chips in which one chip in the stack is substantially larger than the other chips in the stack (*see, e.g.*, Takiar, Figure 13). Accordingly, dependent claim 9, 10, and 12 are patentable over the cited prior art references for this additional reason.

In view of the above, new claims 9-13 are patentable over the cited prior art references. Accordingly, an action in the form of a notice of allowance is respectfully requested for the new claims.

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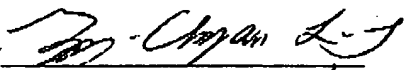
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Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 09669/005001).

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Respectfully submitted,

By 
for Jonathan P. Osha *T. Chyan Liang*
Registration No.: 33,986 *48,885*
OSHA · LIANG LLP
1221 McKinney St., Suite 2800
Houston, Texas 77010
(713) 228-8600
(713) 228-8778 (Fax)
Attorney for Applicant